

(2) using said computed optical power value to drive each said light emitting diode (LED) so that it produces a planar light illumination beam (PLIB) having the computed optical power level with said FOV,

whereby the PLIB illuminates said object as said object moves through said FOV, and said PLIIM-based imaging system automatically produces a digital image of the moving object, with pixels having a substantially uniform white level, independent of the velocity of the moving object. --

--682. The PLIIM based imaging system of claim 681, wherein said PLIIM based imaging system is supported above a conveyor belt structure, along which the object is being transported.-

--683. The PLIIM based imaging system of claim 681, wherein said PLIIM based imaging system is embodied within a hand-supportable housing, past which the object is being transported. --

AMENDMENT OF THE ABSTRACT:

Please amend the Abstract of Invention as follows:

--ABSTRACT OF INVENTION

A method of and apparatus for automatically producing digital images of an object having a substantially uniform white level independent of the velocity of the object. The method comprising determining the velocity of an object moving relative to a planar light illumination and imaging (PLIIM) based imaging system having a linear image detection array with a field of view (FOV), a planar light illumination array (PLIA) with a plurality of light emitting diodes (LEDs) arranged in a linear array for producing a planar light illumination beam (PLIB) coplanar with the FOV, and a micro-controller for controlling the operation of the PLIIM based imaging system. The determined velocity is used to compute the optical power which each light emitting diode (LED) must produce in order that each digital image of the object, formed by illuminating the object with the computed optical power, will have substantially the same white intensity level independent of the velocity of the object relative to the PLIIM-based imaging system. The computed optical power value(s) are transmitted to the micro-controller, and the micro-controller

uses the computed optical power value(s) to drive each light emitting diode so that it produces a planar light illumination beam having the computed optical power level with the FOV. By virtue of the present invention, the planar light illumination beam illuminates the object, and the PLIIM-based imaging system automatically produces a digital image of the moving object, with pixels having a substantially uniform white level, independent of the velocity of the object. Such image characteristics enables simpler and more reliable image processing in applications such as, for example, optical character recognition (OCR) processing, where image pixels having a substantially uniform white level, and a uniform aspect-ratio, are often desired or required.--